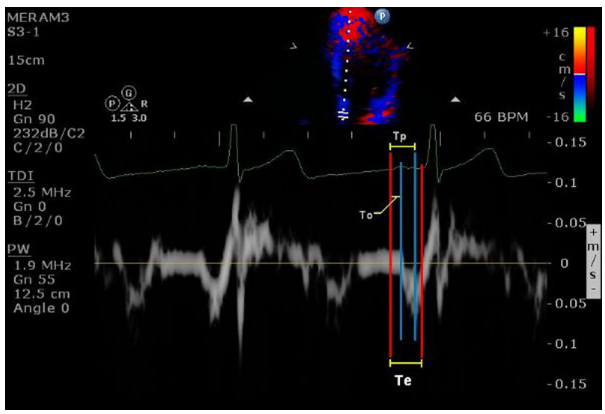
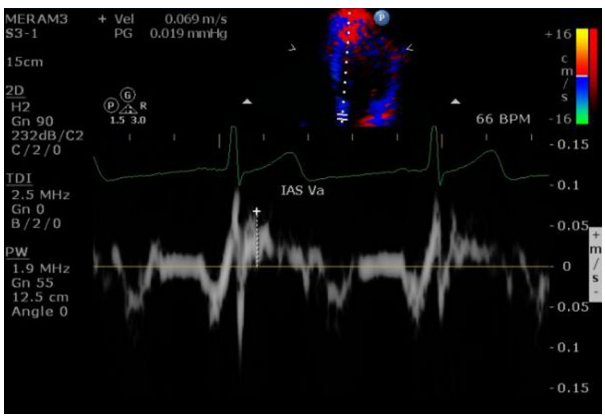
were in the combined group (fasting plasma glucose levels of 100 mg/dl to 125 mg/dl and oral glucose tolerance test values of 140 mg/dl to 199 mg/dl) pre-dm (Totally 80 pre-dm patients). Atrial tissue doppler parameters were measured with transthoracic echocardiography. Both left and right atrial measurements were performed at peak regional atrial contraction velocity (Va), which reflects atrial systolic functions, atrial mechanical times (The time between the onset of P wave on the surface ECG to the onset to peak Tp, the end of the atrial contraction (Te), and atrial mechanical functions (derived from atrial volumes, which are indexed to body surface area) were compared between groups (figures 1, 2).

Results: The main demographic characteristics were comparable between groups. There was no significant difference between control and i-IFG group pre-dm in all atrial parameters. Also there was no significant difference between groups in terms of Va (Table). But To and Te values were significantly higher in pre-dm patients compared with control group (Table). These differences were clearly seen between the control group and the combined group pre-dm subjects. Of the atrial mechanical functions, passive empting fraction and diastolic emptying fraction were significantly decreased in pre-dm patients (especially in combined group pre-dm) compared with controls (19.2±7.9 vs. 25.9±7.5 mL/m^2, p<0.001 and 43.6±13.8 vs 34.4±5.9 ml/m^2, p=0.001, respectively) (Table).

Conclusions: Atrial functions are impaired in the pre-diabetic period before development of overt diabetes. This condition is an evidence of that chronic hyperglycemia may contribute to atrial re-modeling with numerous mechanisms before development of diabetes mellitus.





Table

Variables	Control (n=40)	Pre-DM (n=80)	P values
IAS Va(cm/s)	8.14±2.2	8.59±2.1	0.29
LA Va(cm/s)	8.97±2.1	9.62± 2.0	0.11
RA Va (cm/s)	11.07±2.2	11.28±2.2	0.64
IAS To (ms)	28.5±7.3	34.2±10.7	0.003
IAS Tp (ms)	82.95±15.2	86.78±20.9	0.26
IAS Te (ms)	123.1±13.3	134.7±23.7	0.001
LA To (ms)	29.58±8.8	36.11±10.23	0.001
LA Tp (ms)	88.85±16.5	96.75±24.4	0.07
LA Te (ms)	124.85±16.2	139.81±24.6	p<0.001
RA To (ms)	28.40±7.6	32.68±9.8	0.01
RA Tp (ms)	88.03±14.6	92.96±26.2	0.20
RA Te (ms)	130.50±14.0	145.4±29.4	p<0.001
Passive emptying fraction(%)	19.2±7.9	25.9±7.5	p<0.001
Diastolic emptying fraction(%)	43.6±13	34.4±5.9	0.001
Active emptying fraction (%)	22.8±7.6	27.2±13.7	0.09

Comparison of atrial functions. Pre-DM,prediabetes; IAS,inter-atrial septum; LA-left atrium; RA-right atrium; Va-regional atrial contraction peak velocity; The time between the onset of P wave on the surface ECG to the onset To, to peak Tp, and end of the atrial contraction Te.

POSTERS

PP-217

Epicardial Fat Thickness in Patients with Chronic Obstructive Pulmonary Disease along with Right Ventricular Systolic Dysfunction

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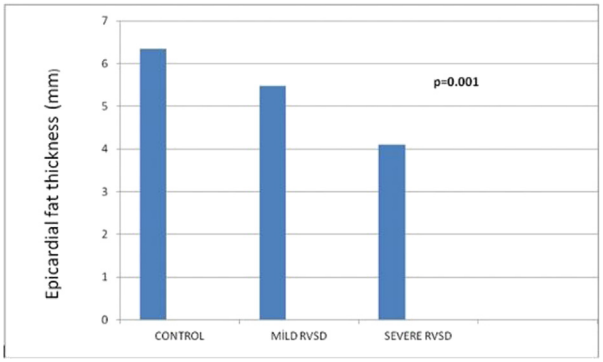
The relationship between epicardial fat tissue (EFT) and left ventricular (LV) dysfunction, cardiovascular metabolism, and coronary artery disease is well known. The objective of this study was to evaluate EFT in patients with chronic obstructive pulmonary disease (COPD) who also have right ventricular systolic dysfunction (RVSD).

This observational study was comprised of 98 patients with COPD and 40 healthy controls, who were divided into groups according to fractional area changes (FACs) in order to evaluate right ventricular functions. Subgroup analysis was performed according to degree of RVSD in the patients with COPD (RVFAC<17%, 25-31%, or 32-60%). Statistical analysis was performed using Student's t-test, the Mann-Whitney U test, and a chi-square test along with the Kruskal-Wallis one-way analysis of variance (ANOVA) and one-way ANOVA post-hoc tests.

The EFT decreased in the patients with COPD compared with the control group (4.92±1.2 versus 6.35±1.1, respectively; p=0.001), and the mean EFT was 4.1±0.77 mm in patients with severe RVSD and 5.48±1.28 mm in patients with mild RVSD (p <0.001). The difference among the three groups was independent of body mass index (BMI).

Our data points to the fact that the EFT decreases in patients with COPD who have RVSD and that it is also a predictor for the degree of RVSD.



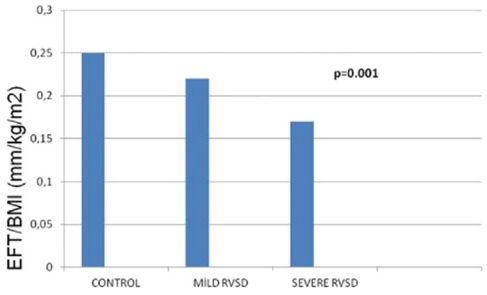


Table 1. Baseline characteristics, right ventricular parameters, and epicardial fat tissue values of the patients with COPD and the controls

	COPD (n=98)	CONTROL (n=40)	*p
Age	67±9.8	70±5.5	0.06
Gender (female/male)	35/63	15/25	0.843
BMI(kg/m2)	24±3	25±3.2	0.021
Diabetes, n (%)	4 (4%)	0	0.195
Dyslipidemia, n (%)	4 (4%)	4(%10)	0.177
Hypertension, n (%)	4 (4%)	0	0.195
Smokers, n (%)	57(%58)	9(%22)	0.001
TAPSE	20 ±3.4	25.2±2.1	0.001
MPI	0.60±0.14	0.46±0.1	0.001
IVA	2.3±0.5	2.6±0.4	0.002
sPAP	46.1±20	23.8±2.6	0.001
EFT	4.92±1.2	6.35±1.1	0.001
EFT/BMI	0.20±0,04	0.25±0.03	0.001

COPD= Chronic pulmonary obstructive disease, BMI= Body mass index, MPI= Myocardial performance index, IVA= Isovolumic acceleration time,TAPSE= Tricuspid annular plane systolic excursion, EFT= Epicardial fat tissue, sPAP= Systolic pulmonary arterial pressure, NS: nonsignificant *Chi-square test and Student's t-test

Table 2. Baseline characteristics, right ventricular parameters, and epicardial fat tissue values of the patients with COPD (subgroup analysis) and the controls

	SEVERE RVSD (RVFAC<17%) (n=40)	MİLD RVSD (RVFAC 25-31%) (n=58)	CONTROL (RVFAC 32-60%) (n=40)	*p
Age	67±9.5	66±10	70±5.5	0.1
Gender (female/male)	11/29	24/34	15/25	0.36
BMI	23±3.3	24±2,9	25±3.2	0.54
Diabetes, n (%)	2 (5%)	2 (3.4%)	0	0.39
Dyslipidemia, n (%)	0	4 (6.8%)	4 (10%)	0.14
Hypertension, n (%)	14 (35%)	29 (50%)	19 (47%)	0.22
Smokers, n (%)	22 (55%)	35 (60%)	9 (22.5%)	0.01
TAPSE	17±2.3	22±2.3	25±2.1	0.001
MPI	0.7±0.2	0.52±0.11	0,46±0.1	0.001
IVA	1.9±0.3	2.5±0.4	2.6±0.4	0.001
sPAP	68±8.8	30±5.1	23±2.6	0.001
EFT	4.1±0.77	5.48±1.28	6.35±1.18	0.001
EFT/BMI	0.17±0.03	0.22±0.04	0.25±0.03	0.001

RVSD= Right ventricular systolic dysfunction, RVFAC= Right ventricular fractional area change, BMI= Body mass index, MPI= Myocardial performance index, IVA= Isovolumic acceleration time,TAPSE= Tricuspid annular plane systolic excursion, EFT= Epicardial fat tissue, sPAP= Systolic pulmonary arterial pressure, NS: nonsignificant Data is expressed as mean±SD and median (minimum-maximum) values,* ANOVA followed by Tukey's honestly significant difference (HSD) post-hoc test

POSTERS

PP-218

The Relationship between Epicardial Adipose Tissue and ST-segment Resolution in Patients with Acute ST-segment Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention

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[1]Acıbadem Maslak Hospital, Department of Cardiology, Istanbul, [2]Dr. Siyami Ersek Cardiovascular and Thoracic Surgery Center, Department of Cardiology, Istanbul, [3]Kartal Koşuyolu Research and Training Hospital, Departmant of Cardiology, Istanbul

Purpose: The aim of this study was to investigate the predictive value of epicardial adipose tissue (EAT) thickness on ST-segment resolution that reflects myocardial perfusion in patients undergoing primary percutaneous coronary intervention (pPCI) for acute ST-elevation myocardial infarction (STEMI).
Methods: The present study prospectively included 114 consecutive patients (mean age 54±10 years, 99 men, 15 women) with first acute STEMI of 12-hour onset and with thrombolysis in myocardial infarction (TIMI) 0/1 flow pre-procedurally who underwent successful (TIMI-3 flow) pPCI. Sum of ST-segment elevation amount in millimeters was obtained before angioplasty and 60 minutes after the restoration of TIMI-3 flow. The difference between 2 measurements was accepted as the amount of ST-segment resolution and expressed as ∑STR. ∑STR <50% was accepted as ECG sign of no-reflow phenomenon. The EAT thickness was measured on the free wall of right ventricle by 2 dimensional echocardiography.
Results: The no-reflow phenomenon was found in 21,9% of the entire group. EAT thickness was significantly higher in patients with no-reflow compared to those without no-reflow (6.1±2.1 vs. 3.9±1.7, respectively; p<0.001). EAT thickness was inversely correlated with ST resolution (r=-0.414, p=0.001). Multivariate logistic regression analysis demonstrated that EAT thickness indepently predicted no-reflow (OR: 2.33, 95%CI: 1.21-4.48, p=0.01).
Conclusıon: Increased EAT thickness may play an important role in the prediction of the no-reflow in STEMI treated with pPCI.

PP-219

Assessment of Right Ventricular Systolic Functions in Patients with Chronic Renal Failure before and after Hemodialysis

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Dicle University School of Medicine, Department of Cardiology, Diyarbakir

Objectıve: In chronic renal failure (CRF) patients treated with hemodialysis (HD) preload reduces due to the ultrafiltration during HD. In this study we aimed to determine the affect of preload change on right ventricular systolic functions detected by new and old echocardiographic parameters in patients with CRF and to determine whether the change in echocardiographic parameters is related with the amount of fluid taken.
Methods: A total of 30 patients with CRF (mean age 48 ± 15 years and 19 female) treated with HD for the last 3 months or more were included in the study. In the echocardiographic evaluation of the patients; left ventricular ejection fraction (LVEF), left atrial (LA) volume, right atrial (RA) area, right ventricular (RV) end-diastolic area, pulmonary artery (PA) systolic pressure, right ventricular fractional area change (RV FAC), pulse wave Doppler (PW), tissue Doppler (TD), right ventricular myocardial performance index tended (RV MPI), right ventricular tissue Doppler S' (RV S') velocity, isovolumic myocardial acceleration (IVA), tricuspid annular plane systolic excursion (TAPSE) and right ventricular outflow tract systolic excursion (RVOT SE) were recorded before and after HD.
Results: Left ventricular EF values were increased and LA volume, RA area, RV end-diastolic area and PA systolic pressure were significantly decreased after HD (p=0.001). The RV MPI by PW, RV S' and RVOT SE parameters which were used to determine right ventricular systolic function did not change after HD (p=0548, p=0942, p=0.186). Meanwhile RV FAC, RV MPI by TD, IVA and TAPSE values were significantly increased (respectively p=0.0001 and p=0.001, p=0.0001, p=0.0001). Among parameters used in the evaluation of right ventricular systolic function, TAPSE was found to be the only parameter that showed a positive correlation with the amount of fluid ultrafiltrated (p=0.041 and r=0.375).
Conclusıons: This study demonstrated a decrease in preload in hypervolemic patients with normal left ventricular systolic function resulted in decreased size in heart chambers and increased systolic functions. Although RV MPI by PW, RV S' and RVOT SE were found to be independent of preload, RV FAC, RV MPI by TD, IVA and TAPSE values were dependent on the preload. In addition, TAPSE was found to be correlated with the amount of fluid taken.